EDITORIAL

Navigating the Future of Critical Care

By Kathleen Dracup, RN, DNSc, and Christopher W. Bryan-Brown, MD. From the School of Nursing, University of California, San Francisco, San Francisco, Calif (KD), and the Department of Anesthesiology, Albert Einstein College of Medicine, Bronx, NY (CWB-B).

If you don't know where you are going, you will wind up somewhere else.

Yogi Berra[1]

According to veteran airline pilots, plane crashes do not usually occur because of a single malfunction. Rather, a series of ominous events occur that lead to a "perfect storm" scenario with tragic consequences. For example, weather is marginal, visibility is poor, the flight crew is inexperienced or communicates poorly, and a piece of navigational equipment malfunctions. None of these factors in and of themselves lead to a plane crash, but in combination they can converge to create a disaster.

Many nurses and physicians working in critical care today are worried that a "perfect storm" is brewing on the horizon of our specialty. Although the forces pointing to a future system crash in critical care are many, we are going to focus on 3. These 3 forces have the potential to create a dramatic new demand for intensive care unit (ICU) services in the face of a decreasing ability to meet that demand.

First, an aging society with multiple comorbidities is poised to require intensive care when hospitalized. The oldest baby boomers are 58 years old, and they are quickly coming to an age when their need for critical care services markedly rises.[2] As an increasing percentage of people in the United States qualify for senior discount rates and enter their eighth and ninth decades of life, we can anticipate an explosion of demand for healthcare services.

Second, we know from past research that between 13% and 35% of certain procedures are not indicated but are still performed.[3] Some of these interventions are fueled by patients' and families' unrealistic expectations about what medical and nursing science can deliver. These unrealistic expectations can result in longer ICU stays or a reluctance on the part of physicians and nurses to transfer patients from the ICU to more appropriate settings (eg, hospice or skilled nursing units). As the gap between what is possible and what is appropriate widens (to say nothing of the gap between what is possible and what is affordable!), stress will occur in the relationships between patients, families, caregivers, and payers. One can foresee an increase in malpractice suits on the part of patients and families and denial of payment on the part of payers in this scenario, with patient and family satisfaction plummeting and nurses caught in the middle. It is a scenario that is played out every day in hospitals and will become even worse as the population ages and budget constraints continue to come into play.

Third, the current shortages in critical care personnel, particularly in experienced nurses, physicians, and pharmacists, are projected to get far worse.[4,5] The wave of retirements predicted to occur during the next decade will leave ICUs in dire straits, ill equipped to care for the increasing numbers of patients requiring critical care.

Taking their cue from famous baseball manager and player Yogi Berra, representatives from 4 professional organizations—the American Association of Critical-Care Nurses, the American College of Chest Physicians, the American Thoracic Society, and the Society of Critical Care Medicine—recently held a series of meetings to consider the future of critical care, focusing on the challenges that are converging to create a perfect storm in healthcare. The group developed a consensus document titled Framing Options for Critical Care in the United States[6-8] that lays out arguments for rethinking how critical care is delivered and by whom. Since no clinical trial or consensus document can avoid being abbreviated in our acronym-filled clinical world, the document is referred to as FOCCUS.

Regionalizing Resources and Standardizing Care

When looking at the problem on a national level, the solutions appear straightforward. The most obvious solutions are discussed at length in the original FOCCUS document: regionalize services and standardize ICU care. But both recommendations have their costs as well as barriers to implementation. For example, although regionalizing neonatal and pedi-

To purchase reprints, contact The InnoVision Group, 101 Columbia, Aliso Viejo, CA 92656. Phone, (800) 809-2273 or (949) 362-2050 (ext 532); fax, (949) 362-2049; e-mail, reprints@aacn.org.

atric ICUs has proven highly effective,[9,10] no data exist to support regionalizing adult critical care. Given the burden on families who must travel long distances to regional hospitals and the loss of jobs in a given community created by moving critical care units from local hospitals to new and distant regional centers, the need for supporting data is paramount. We can only imagine the intensity of the debate as people on the committee discussed whether it makes sense to have critically ill patients transported to distant regional centers. (Raising teenagers has taught both of us that debates are most contentious in the absence of data.)

Standardizing ICU care using current practice guidelines and the principles of evidence-based medicine can hardly appear controversial; however, such recommendations must be balanced with the recognition that every individual has unique needs and responses and with the knowledge that much of what we do every day in ICUs lacks definitive evidence. The importance of these caveats to guideline-driven care should not be lost in the enthusiasm for evidence-based medicine.

Perhaps more germane to the question of addressing future challenges is whether caregivers will implement the guidelines that do exist. Human barriers to changing behavior are vast. Much of the research to date suggests that it takes 5 to 10 years for evidence-based recommendations to move into common use; in critical care, that's a lifetime.

Rethinking the Supply

We are in the midst of a national shortage of critical care nurses, intensivists, respiratory therapists, and pharmacists. The FOCCUS document has intriguing and dramatic recommendations. The panel reviewed the research to date on patient outcomes related to specialty care. It is clear that the outcomes for patients cared for by intensivists are better when compared with care delivered by generalists. These patients have less morbidity and mortality in the face of similar illness severity. Yet, only approximately one third of all patients are cared for by intensivists in the United States today and less than 1 out of 10 units are "closed" (meaning that care is delivered by a hospital-based intensivist rather than by the patient's private physician). The call for encouraging specialization and restructuring hospital ICUs to be closed units is bold in the face of current shortages.

For us, some of the most intriguing parts of the document had to do with restructuring the work environment of nurses and physicians. The FOCCUS authors recognized that the way to attract and retain talented individuals to the field, particularly nurses, is to provide them with autonomy in their practice (both in clinical and financial arenas), to have a zero tolerance policy for disruptive behavior in the workplace, to promote interprofessional collaboration and communication, to use technology to organize data and minimize medical errors, and to provide appropriate compensation and opportunities for career growth. Although more can always be said about how the future could be different for critical care teams, the document provides a wonderful blueprint for any administrator or educator thinking about the future of critical care.

Winding up Somewhere Else

Critical care has faced daunting challenges in the past. In the early days of the specialty, visionary and forceful leaders dared colleagues to create a new way to provide care to the acutely ill. Nurses and physicians taught each other, and ICUs were created from regular patient rooms and supply closets. It is time to rethink the way we are currently doing business in our specialty and bring that same sense of boldness to today's challenges.

REFERENCES

1. Available at: http://www.quotationspage.com/quotes/Yogi_Berra/. Accessed on March 29, 2004.
2. Meyer JA, Wicks EK. *Covering America: Real Remedies for the Uninsured.* Washington, DC: Economic and Social Research Institute; 2001.
3. Guadagnoli E, Landrum MB, Peterson EA, Gahart MT, Ryan T, McNeil BJ. Appropriateness of coronary angiography after myocardial infarction among Medicare beneficiaries: managed care versus fee for service. *N Engl J Med.* 2000;343:1460-1466.
4. Buerhaus P. Implications of an aging registered nurse workforce. *JAMA.* 2000;283:2948-2954.
5. Angus DC, Kelley MA, Schmitz RJ, White A, Popovich JJ. Current and projected workforce requirements for care of the critically ill and patients with pulmonary disease. Can we meet the requirements of an aging population? *JAMA.* 2000;284:2762-2770.
6. Framing Options for Critical Care in the United States. Available at: http://www.chestnet.org/downloads/advocacy/foccus.pdf. Accessed on March 31, 2004.
7. Ewart GW, Marcus L, Gaba MM, Bradner RH, Medina JL, Chandler EB. The critical care medicine crisis: a call for federal action. A White Paper from the critical care professional societies. *Chest.* 2004;125:1518-1521.
8. Kelley MA, Angus D, Chalfin DB, et al. The critical care crisis in the United States. A report from the profession. *Chest.* 2004;125:1514-1517.
9. Bode MN, O'Shea RM, Metzguer KR, Stiles AD. Perinatal regionalization and neonatal mortality in North Carolina 1968-1994. *Am J Ob Gyn.* 2001;184:1302-1307.
10. Pollack MM, Alexander SR, Clarke N, et al. Improved outcomes from tertiary center pediatric intensive care: a statewide comparison of tertiary and nontertiary care facilities. *Crit Care Med.* 1991;19:150-159.